



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/964,645	09/28/2001	Dong-Gyu Kim	06192.0257.NPUS00	1942

7590 05/26/2004
McGuire Woods
1750 Tysons Boulevard
Suite 1800
McLean, VA 22102-4215

EXAMINER

WEISS, HOWARD

ART UNIT PAPER NUMBER

2814

DATE MAILED: 05/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/964,645		KIM, DONG-GYU	
	Examiner		Art Unit	
	Howard Weiss		2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 ~~is~~ are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20-28 ~~is~~ are allowed.
- 6) ☒ Claim(s) 1-19 ~~is~~ are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Attorney's Docket Number: 06192.0257.NPUS00

Filing Date: 9/28/01

Continuing Data: RCE established 3/29/04

Claimed Foreign Priority Date: 5/16/01 (KRX)

Applicant(s): Kim

Examiner: Howard Weiss

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/29/04 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 to 6, 9 to 13 and 15 to 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozaki et al. (U.S. Patent No. 6,476,881) and Ikeda et al. (U.S. Patent No. 5,182,661).

Ozaki et al. show most aspects of the instant invention (e.g. Figures 4 to 10) including:

- a substrate **35**
- horizontal gate lines **13a,b** connected to gate electrodes
- horizontal storage capacitor line **23**

- a gate insulating layer **37** covering said gate and storage capacitor lines
- a semiconductor pattern **107** formed on said gate insulating layers
- data lines **11a,b** crossing said gate lines, connected to source electrodes **17a,b** and drain electrodes **21a,b**
- a protective layer **39** with two contacts holes: one **29a,b** connecting the drain electrode to pixel electrodes **27a,b** and the other **31a,b** connecting the storage capacitor line to said pixel electrode
- repair members **33a,b** protruding from said gate line and partially overlapping the pixel electrodes
- subsidiary repair members **9a,b**

Ozaki et al. do not show a plurality of extensions provided to the respective pixel regions, wherein each extension is extended from the pixel electrode of the respective pixel region and overlapping the gate line of on a previous row, or extended from the gate line on the previous row and overlapping the pixel electrode of the respective pixel region and the specific range area of overlap.

Ikeda et al. teach (e.g. Figures 3 and 4) to extend the pixel electrode **22** to overlap the gate line **10** of the previous row (i.e. that part of **22** which extends over **10** after contact hole **64**) to give the display a high picture quality (Column 5 Lines 48 and 49). It would have been obvious to a person of ordinary skill in the art at the time of invention to extend the pixel electrode to overlap the gate line of the previous row as taught by Ikeda et al. in the device of Ozaki et al. to give the display a high picture quality.

Since the Applicant has not established the criticality of range of the overlap area stated and since these overlap areas are in common use in similar devices in the art, it would have been obvious to one of ordinary skill in the art to use these values in the device of Ozaki et al. Where patentability is said to be based upon particular chosen dimensions or upon another variable recited in a claim, the applicant must

show that the chosen dimensions are critical. *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

4. Claims 7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozaki et al. and Ikeda et al., as applied to Claims 1 and 12 above, and in further view of Song (U.S. Patent No. 5,909,263).

Ozaki et al. and Ikeda et al. show most aspects of the instant invention (Paragraph 3) except for the repair member in a ring shape and the specific range area of overlap. Song teaches (e.g. Figure 4) to form repair (i.e. connection) members **220** in ring form to reduce pixel defects (Column 3 Lines 5 to 8). It would have been obvious to a person of ordinary skill in the art at the time of invention to form repair members in ring form as taught by Song in the device of Ozaki et al. and Ikeda et al. to reduce pixel defects.

Allowable Subject Matter

5. Claims 20 to 28 are allowed.
6. The following is a statement of reasons for the indication of allowable subject matter:
A LCD with TFT array substrate as claimed including repair members which are extensions of the gate lines of the adjoining pixel region on the previous row and which overlap the pixel electrode of the corresponding pixel region could not be anticipated nor, in combination, rendered obvious over the prior art of record.

Response to Arguments

7. Applicant's arguments filed 3/29/04 have been fully considered but they are not persuasive. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so

found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Ikeda et al. specifically state that the configuration shown in Figures 3 (which includes the overlap of the pixel electrode with the gate line) gives the display high quality (see Paragraph 3 above). That part of the pixel electrode which overlaps with the gate line is the extension. In reference to Song, the motivation to combine is stated in the rejection above.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In this case, the knowledge to combine the reference is found in the prior art as stated above.

In view of these reasons and those set forth in the present office action, the rejections of the stated claims stand.

Conclusion

8. Papers related to this application may be submitted directly to Art Unit 2814 by facsimile transmission. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (15 November 1989). The Art Unit 2814 Fax Center number is **(703) 872-9306**. The Art Unit 2814 Fax Center is to be used only for papers related to Art Unit 2814 applications.

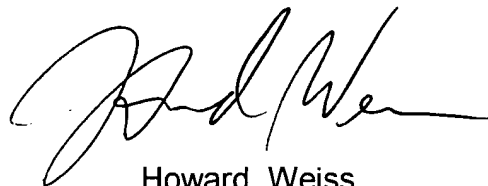
Art Unit: 2814

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Howard Weiss at **(571) 272-1720** and between the hours of 8:00 AM to 4:00 PM (Eastern Standard Time) Monday through Friday or by e-mail via **Howard.Weiss@uspto.gov**.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group 2800 Receptionist at **(703) 308-0956**.

10. The following list is the Examiner's field of search for the present Office Action:

Field of Search	Date
U.S. Class / Subclass(es): 257/59; 439/43	thru 5/21/04
Other Documentation: none	
Electronic Database(s): EAST, IEL	thru 5/21/04



Howard Weiss
Examiner
Art Unit 2814

HW/hw
21 May 2004